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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,398	07/03/2003	Hossain Amidi	034559-000002	4470

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EXAMINER
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DINH, TUAN T

ART UNIT	PAPER NUMBER
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2841

MAIL DATE	DELIVERY MODE
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07/11/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/613,398

Applicant(s)

AMIDI ET AL.

Examiner

Tuan T. Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Deneroff et al. (U.S. Patent 6,115,278).

As to claims 1-2, Deneroff et al. discloses a memory module (10) comprising:

a printed circuit board (2) having a plurality of connector pins (6, column 5, lines 61-62);

a plurality of different types of memory devices (DRAM and/or DDR SDRAM's-3) mounted on said printed circuit board (10); (noted: the SDRAM's-3 are used in pairs of 64, 128, and 256 Mbits to have configurations from 128Mbytes-1Gbytes) and

an electrical circuit (traces or components mounted on the PCB 2) coupling said plurality of memory devices )3) to said plurality of connector pins (6) such that said plurality of connector pins (6) has multiple functionality based on a respective architecture of each of said plurality of different types of memory devices (3).

As to claim 3, Deneroff et al. discloses said plurality of connector pins (6) engages with a memory socket (20), said memory socket communicating with a memory controller.

As to claim 4, Deneroff discloses said memory controller (20) includes: a plurality of controllers, each controller corresponding to an architecture of one of the plurality of different types of the memory devices (3); a Finite State Machine (FSM) coupled to said plurality of controllers; an address multiplexor coupled to said FSM, said address multiplexor communicating with said memory socket; a control multiplexor coupled to said FSM, said control multiplexor communicating with said memory socket; and a data multiplexor coupled to said FSM, said data multiplexor communicating with said memory socket (12).

As to claim 5, Deneroff et al. further comprising: a second electrical circuit (components mounted on and near the SDRAM 3), said second electrical circuit coupled to said plurality of memory devices; and a plurality of testing pins (some of the pins from pins 6) coupled to said second electrical circuit.

As to claim 6, Deneroff et al. inherently discloses second electrical circuit supports a JTAG configuration.

As to claim 7, Deneroff et al. discloses said plurality of connector pins (6) includes 220 pins (column 7, line 50).

As to claims 8-9, Deneroff et al. discloses a computer comprising: a main board (motherboard 16); and a memory module (4) coupled to said main board (16), said memory module including: a printed circuit board (2) having a plurality of connector pins (6); and a plurality of different types of memory devices, which is a DRAM and/or DDR SDRAM (3) mounted on said printed circuit board, an electrical circuitry (components) electrically coupling said plurality of memory devices to said plurality of connector pins

such that said plurality of connector pins has multiple functionality based on the architecture of said plurality of memory devices (3).

As to method claims 10-11, one would necessarily perform the cited method steps in using the apparatus rejected above.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues:

Deneroff fail to disclose "a plurality of different types of memory chips"

Examiner disagrees because as disclosed in Deneroff that discloses the memory components have been used as SDRAM or DDR-SDRAM and providing in different speeds, see column 2, lines 43-47, column 5, lines 43-49.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reichard Dean can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tuan Dinh  
July 06, 2007.



TUAN T. DINH  
PRIMARY EXAMINER